

**REMARKS****REJECTION UNDER 35 USC 102**

Former claims 1 and 2 were rejected under 35 U.S.C. 102(e) as being clearly anticipated by Jacks et al. (hereinafter "Jacks").

Applicant respectfully traverses this rejection, and submits that Jacks does not disclose all the elements and limitations of the claims, especially current independent claims 25, 26. Many elements in the claims are absent from Jacks.

**A. Legal Standard for Lack of Novelty (Anticipation)**

The standard for lack of novelty, that is, for "anticipation," is one of strict identity. To anticipate a claim for a patent, a single prior source must contain all its essential elements, and the burden of proving such anticipation is on the party making such assertion of anticipation. Anticipation cannot be shown by combining more than one reference to show the elements of the claimed invention. The amount of newness and usefulness need only be minuscule to avoid a finding of lack of novelty.

The following are two court opinions in support of Applicants' position of non anticipation, with emphasis added for clarity purposes:

- "Anticipation under Section 102 can be found only if a reference shows exactly what is claimed; where there are differences between the reference disclosures and the claim, a rejection must be based on obviousness under Section 103."

*Titani um Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

"Absence from a cited reference of any element of a claim of a patent negates anticipation of that claim by the reference." *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986), on rehearing, 231 USPQ 160 (Fed. Cir. 1986).

**B. Application of the Legal Standard of Anticipation**

Examples of claimed elements which are absent from Jacks include that Jacks has no plastic piece to support the fuze, or any plastic at all. Jacks has no box for the projectiles or intumescent paint coating thereon, either. Consequently, claims 25, 26 would not be anticipated under 35 U.S.C. 102 and the allowance of claims 25, 26 and the claims dependent thereon are earnestly solicited.

**REJECTION UNDER 35 U.S.C. 103**

Claims 3 and 4 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Jacks.

Claim 5 was rejected under 35 U.S.C. 103 (a) as being unpatentable over Jacks in view of Kim, et al.

Claims 6 -- 11 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Jacks further in view of Reibel.

Claims 12 -- 18 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Jacks further in view of Jensen.

Applicants respectfully traverse these rejections and submit that the rejected claims and especially current independent claims 25, 26 are not obvious in view of Jacks or of Jacks in some combination with either Kim, Reibel, or Jensen, and are thus patentable thereover. In support of these positions, Applicants submit the following arguments:

**A. Legal Standards for Obviousness**

The following are court opinions set the general standards in support of Applicants' position of non obviousness, with emphasis added for added clarity:

- **"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1598 (citing *ACS Hosp. Sys. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984)). Whether a reference teaches and whether it teaches toward or away from the claimed invention are questions of fact. See *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 960-61, 220 USPQ 592, 599-600 (Fed. Cir. 1983), cert. denied, 469 U.S. 835, 83 L. Ed. 2d 69, 105 S. Ct. 127 (1984)."**
- **"When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references. See *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987). Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See MPEP 2143.01; *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).**
- **"With respect to core factual findings in a determination of patentability, however, the Board cannot simply reach conclusions based on its own understanding or experience -- or on its assessment of what would be basic knowledge or common sense. Further, the Board must point to some concrete evidence in the record in support of these findings." See *In re Zurko*, 258 F.3d 1379 (Fed. Cir. 2001).**
- **"We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, see *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573,**

37 USPQ2d 1626, 1630 (Fed. Cir. 1996), Para-Ordinance Mfg. v. SGS Imports Intern., Inc., 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), although "the suggestion more often comes from the teachings of the pertinent references," Rouffet, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. See, e.g., C.R. Bard, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." E.g., McElmurry v. Arkansas Power & Light Co., 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) ("Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact."); In re Sichert, 566 F.2d 1154, 1164, 196 USPQ 219, 217 (CCPA 1977)." See In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999).

- "To prevent the use of hindsight based on the invention to defeat patentability of the inventor, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." See In re Rouffet, 149, F.3d 1350 (Fed. Cir. 1998).
- MPEP 2143.01-"The Prior Art Must Suggest The Desirability Of The Claimed Invention. There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a prima facie case of obvious was held improper). The level of skill in the art cannot be relied upon to provide the

suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

- The mere fact that references can be hypothetically combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).
- If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

#### **B. Application of the Legal Standard of Obviousness**

Many of the claimed elements are either absent from the references, or vastly different in function and structure. Examples of these will follow. Jacks does not have a plastic member; Jacks has **no plastic**. Instead Jacks has a complex metal multi-piece device (35, 50, 57, 67) with spring element 57 to affirmatively eject the fuze. He depends on metal parts and melting of a layer of solder 67 containing lead-tin metal alloy to allow eventual activation of a spring to **pop** the fuze. An inner sleeve 50 is threaded onto a fuze and an outer sleeve 35 is threaded into a warhead casing. Melting of solder allows the inner sleeve to separate from the outer

sleeve. The **spring loaded** inner sleeve and fuze assembly is affirmatively ejected from the outer sleeve thereby creating an opening for venting. Jacks wouldn't have gone to such an elaborate mechanism if he thought he could have just used a single plastic piece that would melt away. Jacks teaches away from using the likes of Applicants' single plastic member in places like Jacks, column 1, lines 31 – 45. Jacks apparently feels that a plastic type attachment alone would not be strong enough to support a fuze, in a reliable manner. He also says that use of plastic, (much less a one piece of plastic alone), was deficient "in that softening to allow fuze expulsion did not occur consistently in time to prevent cookoff.". Jacks clearly teaches away from using the plastic member; one skilled in this art would not have been led to the invention claimed by Applicants, from the narrative in Jacks. Jacks also does not disclose, for example, having **Intumescent paint** as a feature in a box containing such projectile(s), to more assure melting of the plastic, by **slowing down** advance of a fire. This feature of the invention more assuredly guarantees that the fuze will vent since the plastic would be given **more time** that way to build up heat and more assuredly melt, well in time before an auto ignition of the explosives. This is a safety feature for the projectiles not at all described or contemplated by Jacks or by any of the cited references.

Kim is also a multi-piece mechanism (20, 22, 30). Kim has a warhead adapter element 20 that together with mechanism 22 helps couples a rocket motor 40 to the closed aft end of a warhead 50. The plastic 20 is wholly **external** to the item being vented (rocket motor 40), not internal as with Applicants. The action of the plastic piece 20 is only indirect in that melting of the adapter 20 releases mechanism 22 and

the rocket motor casing 40 from the warhead 50, and that allows later release of dome element 30, which in turn then only allows for the venting of the rocket motor casing 40. This venting method is **round-about** and has extra parts (such as the dome plug 30 and mechanism 22) as compared to Applicants. Applicants by contrast describe a significantly different mechanism where a single plastic member (Applicants' part 12) is used to secure the closure of a fuze into a warhead casing. Melting of such plastic member 12 breaks the closure directly creating an opening for venting of the combustion gases generated by the explosive upon auto-ignition at high temperature. The plastic 20 in Kim is far **too thick** in size to be used internally as Applicants do, so this is not a teaching for combination with Jacks in that Jacks points out that with holding up a fuze the internal spacing is too tiny to use a plastic piece that would be strong enough (big size) so as to be able to securely hold up a fuze (Jacks, column 1, lines 31 – 45). Moreover, the plastic of Kim is of a different variety (glass-filled polycarbonate), having a higher melt temperature. The environment being vented is different in that it is only for propellant in a rocket motor, not of explosives in the payload of a projectile in auto-ignition. These are different materials with regard to temperatures, pressures and operating conditions. Like Jacks, Kim does not disclose providing intumescent paint as a feature in a box containing such projectile(s), to more assure melting of the plastic, by slowing down advance of a fire.

The Jacks and Kim inventions differ structurally and functionally from one another to such a degree that no combination of the two teachings is believed even possible from a practical point of view. Even if possible hypothetically to combine these references, various claimed elements in claims 25, 26 would still be missing from such improper

merger of elements. Moreover, Jacks and Kim do not at all even point to one another for combination

Reibel shows a spring washer between a fuze and a bottom of the fuze well cavity of an explosive loaded projectile to prevent separation of the explosive cast from the bottom of the warhead casing. The invention in Reibel is completely unrelated to the mechanism focused on by Applicants. Like the other references, Reibel has no intumescent coatings as a feature in a box containing such projectile(s), to more assure melting of the plastic, by slowing down advance of a fire. No combination of Reibel with the other references could create an invention such as claimed in claims 25, 26 for instance.

Jensen shows a practice projectile with variable range. The variable range is accomplished by means of drilled holes in the aft and forward ends of the warhead casing. The combustion gases produced by the propulsion system are vented thru these holes and the range of the projectile is adjusted by plugging (or unplugging) the vent holes. The invention in Jensen is unrelated to Applicants focus of venting a payload containing high explosives upon auto-ignition. Jensen does not describe for example, having intumescent paint as a feature in a box containing such projectile(s), to more assure melting of the plastic, by slowing down advance of a fire. No combination of Jensen with the other references could create an invention such as claimed in claims 25, 26, for instance.

Applicant respectfully submits that claims 25, 26 have now been written to include many limitations that Jacks does not disclose or suggest.



To include claims 25, 26 and the claims dependent thereon are allowable and such allowance is respectfully requested.

### CONCLUSION

All the claims presently on file in the present application are in condition for immediate allowance, and such action is respectfully requested. If it is felt for any reason that direct communication would serve to advance prosecution of this case to finality, the Examiner is invited to call the undersigned at the below-listed telephone number.

Respectfully submitted,

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